**Forecast** **Area: Alaska Peninsula, South Alaska Peninsula Aggregate**

**Species: Pink Salmon**

**Preliminary forecast of the 2020 run**

|  |  |  |
| --- | --- | --- |
| Total Production | Forecast Estimate (millions) | Forecast Range (millions) |
| Total Run Estimate a | 2.20 | 0–7.8 |
| Escapement Goal b | 1.75 | 1.75–4.0 |
| Post-June Harvest Estimate | 0.45 | 0–3.8 |

a Post-June harvest and escapement.

b The escapement estimate is the minimum of the aggregate goal range (1.75–4.0 million) in 2020.

The 2020 South Alaska Peninsula predicted pink salmon harvest is expected to be in the *poor* category with a point estimate of 0.45 (less than 2.0) million fish. Harvest categories were calculated from the 20th, 40th, 60th, and 80th percentiles of historical post-June commercial harvest on the South Alaska Peninsula from 1980 to 2019.

|  |  |  |
| --- | --- | --- |
| S. Pen Harvest Category | Range (millions) | Percentile |
| *Poor*  *Weak*  *Average*  *Strong*  *Excellent* | Less than 2.0  2.0 to 4.2  4.2 to 6.7  6.7 to 9.3  Greater than 9.3 | Less than 20th  20th to 40th  40th to 60th  60th to 80th  80th to 100th |

**Forecast Methods**

The 2020 South Alaska Peninsula pink salmon harvest forecast is derived from a total run forecast minus the minimum (1.75 million fish) of the combined even- and odd-year South Alaska Peninsula escapement goal range. The total run was forecasted with a simple exponential smoothing model fit to even-year South Alaska Peninsula pink salmon returns from 1964 through 2018.

**Forecast Discussion**

June harvest of pink salmon has been omitted from the South Alaska Peninsula aggregate pink salmon forecast due to the variability of pink salmon harvest that occurs during the June fishery and the origin of these fish are unknown. The 5-year even-year average harvest of pink salmon in June is 726,000 fish.

The 2020 South Alaska Peninsula pink salmon post-June harvest (0.45 million fish) is predicted to be poor due to the low return that occurred in 2018. The pink salmon escapement estimate of 732,000 fish was below the minimum escapement goal of 1.75 million fish and below the 5-year even-year average of 867,000 fish. The weather during the 2018 season was exceptionally poor for aerial surveys and many streams were surveyed only once during the season. Due to overall reduced survey time, the peak of the run may not have been captured, however, the total run in 2018 was still estimated to be low.

The pink salmon that returned in 2018 had ample rainfall to facilitate escapement and provide adequate spawning habitat, however, ocean conditions encountered by the fish returning in 2020 are unknown. This year’s forecasting model does not take into consideration environmental factors. Changing ocean conditions and recent years’ average temperatures have been outside the ranges in the historical dataset; therefore, the predictive power has been diminished for formerly used forecasting methods that used environmental data.

The 2020 forecast utilizes a simple exponential smoothing model, which is a time series forecasting method without additional parameters to account for underlying trends. Models that accounted for underlying trends did not improve the forecast, therefore were not used. Accounting for uncertainty in changing environmental conditions and the model, confidence in the forecast is fair.

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